UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/829,786	04/10/2001	Jin Lu	US 010188	1884

24737 7590 06/16/2006

PHILIPS INTELLECTUAL PROPERTY & STANDARDS
P.O. BOX 3001
BRIARCLIFF MANOR, NY 10510

EXAMINER	
YIMAM, HARUN M	
ART UNIT	PAPER NUMBER
2623	

DATE MAILED: 06/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

MAILED

JUN 1 5 2006

Technology Center 2600

**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 09/829,786
Filing Date: April 10, 2001
Appellant(s): LU ET AL.

Lu et al.
<u>For Appellant</u>

EXAMINER'S ANSWER

This is in response to the appeal brief filed 04/03/2006 appealing from the Office action mailed 11/02/2005.

(1) Real Party in interest

A statement identifying the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings, which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

The following is a listing of the evidence (e.g., patents, publications, Official Notice, and admitted prior art) relied upon in the rejection of claims under appeal.

Bertram et al. (U.S. 2002/0064177)

Pinder et al. (U.S. 6,219,358)

Firoiu et al. (U.S. 6,820,128)

Shimomura et al. (U.S. 6,473,858)

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-6 and 8-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bertram (US 2002/0064177) and Pinder (US 6,219,358).

Considering claim 1, Bertram discloses an apparatus for inserting new data packets into an incoming digital video transport stream containing a plurality of original data packets (paragraph 0009, lines 1-4), said apparatus comprising: an input buffer capable of storing said original data packets of said incoming digital video transport stream (631 in figure 6 and paragraph 0043, lines 1-5); and a video processor (controller—610 in figure 6) capable of retrieving said stored original data packets from said input buffer (CB1 coupled to the said input buffer in figure 6 and paragraph 0060, lines 1-4).

Bertram fails to disclose determining from said original data packets N data frequencies associated with N most recently received ones of said plurality of original data packets, wherein said video processor estimates from said N data frequencies an estimated data frequency of a plurality of next incoming original data packets and uses said estimated data frequency to determine an insertion rate at which said new data packets may be inserted into said plurality of next incoming original data packets.

In analogous art, Pinder discloses determining from said original data packets N data frequencies associated with N most recently received ones of said plurality of original data packets, wherein said video processor estimates from said N data frequencies an estimated data frequency of a plurality of next incoming original data

packets and uses said estimated data frequency to determine an insertion rate at which said new data packets may be inserted into said plurality of next incoming original data packets (column 9, lines 11-18 and column 10, lines 5-17).

It would have been obvious to one of ordinary skill in the art to modify Bertram's system to include method and apparatus for determining an insertion rate of data packets, as taught by Pinder, for the benefit of determining the available capacity for insertion of data (column 9, lines 14-17).

Claim 2 is met by Bertram and Pinder. In particular, Bertram discloses that said video processor is further capable of identifying in said stored original data packets replaceable data packets not associated with at least one elementary data stream comprising a program carried in said incoming digital video transport stream (paragraph 0038, lines 1-16).

Claim 3 is met by Bertram and Pinder. In particular, Bertram discloses that said video processor inserts said new data packets into said plurality of next incoming original data packets by replacing at least one replaceable data packet in said plurality of next incoming original data packets (paragraph 0038, lines 9-16).

Claim 4 is met by Bertram and Pinder. In particular, Bertram discloses that said video processor is further capable of identifying in said original data packets null data packets (paragraph 0038, lines 4-12).

Claim 5 is met by Bertram and Pinder. In particular, Bertram discloses that said video processor inserts said new data packets into said plurality of next incoming original data packets by replacing at least one null data packet in said plurality of next incoming original data packets (paragraph 0038, lines 9-16).

Claim 6 is met by Bertram and Pinder. In particular, Bertram discloses that said video processor estimates said insertion rate as a function of a summation of the M most recently received original data packets (the video processor has buffer control signals, CB1 and CB2, and more importantly, a switch control signal—CS, that estimates the insertion rate according to the most recently received original data packets—paragraph 0047, lines 1-4 and paragraph 0048, lines 7-14).

Regarding claim 8, Bertram discloses a method for inserting new data packets into an incoming digital video transport stream containing a plurality of original data packets (paragraph 0009, lines 1-4), the method comprising the steps of: storing the original data packets of the incoming digital video stream (in buffers 631 and 632 of figure 6); retrieving the stored original data packets (CB1 coupled to the said input buffer in figure 6 and paragraph 0060, lines 1-4).

Bertram fails to disclose determining from said original data packets N data frequencies associated with N most recently received ones of said plurality of original data packets, wherein said video processor estimates from said N data frequencies an estimated data frequency of a plurality of next incoming original data packets and uses said estimated data frequency to determine an insertion rate at which said new data packets may be inserted into said plurality of next incoming original data packets.

In analogous art, Pinder discloses determining from said original data packets N data frequencies associated with N most recently received ones of said plurality of original data packets, wherein said video processor estimates from said N data frequencies an estimated data frequency of a plurality of next incoming original data packets and uses said estimated data frequency to determine an insertion rate at which said new data packets may be inserted into said plurality of next incoming original data packets (column 9, lines 11-18 and column 10, lines 5-17).

It would have been obvious to one of ordinary skill in the art to modify Bertram's system to include method and apparatus for determining an insertion rate of data packets, as taught by Pinder, for the benefit of determining the available capacity for insertion of data (column 9, lines 14-17).

Claim 9 is met by Bertram and Pinder. In particular, Bertram discloses that said video processor is further capable of identifying in said stored original data packets

replaceable data packets not associated with at least one elementary data stream comprising a program carried in said incoming digital video transport stream (paragraph 0038, lines 1-16).

Claim 10 is met by Bertram and Pinder. In particular, Bertram discloses that said video processor inserts said new data packets into said plurality of next incoming original data packets by replacing at least one replaceable data packet in said plurality of next incoming original data packets (paragraph 0038, lines 9-16).

Claim 11 is met by Bertram and Pinder. In particular, Bertram discloses that said video processor is further capable of identifying in said original data packets null data packets (paragraph 0038, lines 4-12).

Claim 12 is met by Bertram and Pinder. In particular, Bertram discloses that said video processor inserts said new data packets into said plurality of next incoming original data packets by replacing at least one null data packet in said plurality of next incoming original data packets (paragraph 0038, lines 9-16).

Claim 13 is met by Bertram and Pinder. In particular, Bertram discloses that said video processor estimates said insertion rate as a function of a summation of the M most recently received original data packets (the video processor has buffer control signals, CB1 and CB2, and more importantly, a switch control signal—CS, that

estimates the insertion rate according to the most recently received original data packets—paragraph 0047, lines 1-4 and paragraph 0048, lines 7-14).

3. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bertram (US 2002/0064177) and Pinder (US 6,219,358) and further in view of Firoiu (US 6,820,128).

With regards to claim 7, Bertram and Pinder disclose that the video processor (controller 610 in figure 6) controls the switch—620 to determine an insertion rate (paragraph 0047, lines 1-4 and paragraph 0048, lines 7-14).

Bertram and Pinder fail to disclose that each of said M most recently received original data packets in said summation is scaled by a weighting factor, a(k).

In analogous art, Firoiu discloses that the data packets are scaled by a weighting factor (column 8, lines 24-26).

It would have been obvious to one of ordinary skill in the art to modify the combined system of Bertram and Pinder to include a weighting factor, as taught by Firoiu, for the benefit of defining the rate of withdrawing data packets from their respective buffers (column 8, lines 24-26).

4. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bertram (US 2002/0064177) and Pinder (US 6,219,358) and further in view of Firoiu (US 6,820,128).

With regards to claim 14, Bertram and Pinder disclose that the video processor (controller 610 in figure 6) controls the switch—620 to determine an insertion rate (paragraph 0047, lines 1-4 and paragraph 0048, lines 7-14).

Bertram and Pinder fail to disclose that each of said M most recently received original data packets in said summation is scaled by a weighting factor, a(k).

In analogous art, Firoiu discloses that the data packets are scaled by a weighting factor (column 8, lines 24-26).

It would have been obvious to one of ordinary skill in the art to modify the combined system of Bertram and Pinder to include a weighting factor, as taught by Firoiu, for the benefit of defining the rate of withdrawing data packets from their respective buffers (column 8, lines 24-26).

5. Claims 15-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bertram (US 2002/0064177) and Shimomura (US 6,473,858) and in view of Pinder (US 6,219,358).

Considering claim 15, Bertram discloses an apparatus for inserting new data packets into an incoming digital video transport stream containing a plurality of original data packets (paragraph 0009, lines 1-4), said apparatus comprising: an input buffer capable of storing said original data packets of said incoming digital video transport stream (631 in figure 6 and paragraph 0043, lines 1-5); and a video processor (controller—610 in figure 6) capable of retrieving said stored original data packets from said input buffer (CB1 coupled to the said input buffer in figure 6 and paragraph 0060, lines 1-4).

Bertram fails to disclose a television broadcasting system comprising: a plurality of network video sources, each of said plurality of network video sources capable of transmitting at least one digital video transport stream to another facility in said television broadcast system. Bertram further fails to disclose determining from said original data packets N data frequencies associated with N most recently received ones of said plurality of original data packets, wherein said video processor estimates from said N data frequencies an estimated data frequency of a plurality of next incoming original data packets and uses said estimated data frequency to determine an insertion rate at which said new data packets may be inserted into said plurality of next incoming original data packets .

In analogous art, Shimomura discloses a television broadcasting system (column 8, lines 59-61) comprising: a plurality of network video sources, each of said plurality of

network video sources capable of transmitting at least one digital video transport stream to another facility in said television broadcast system (column 2, lines 23-28).

It would have been obvious to one of ordinary skill in the art to modify Bertram's system to include a television broadcasting system with a plurality of video sources capable of transmitting at least one digital video transport stream, as taught by Shimomura, for the benefit of providing a particular user or groups of users with a plurality of data streams (column 2, lines 22-40).

Bertram and Shimomura fail to disclose determining from said original data packets N data frequencies associated with N most recently received ones of said plurality of original data packets, wherein said video processor estimates from said N data frequencies an estimated data frequency of a plurality of next incoming original data packets and uses said estimated data frequency to determine an insertion rate at which said new data packets may be inserted into said plurality of next incoming original data packets.

In analogous art, Pinder discloses determining from said original data packets N data frequencies associated with N most recently received ones of said plurality of original data packets, wherein said video processor estimates from said N data frequencies an estimated data frequency of a plurality of next incoming original data packets and uses said estimated data frequency to determine an insertion rate at

which said new data packets may be inserted into said plurality of next incoming original data packets (column 9, lines 11-18 and column 10, lines 5-17).

It would have been obvious to one of ordinary skill in the art to modify the combined system of Bertram and Shimomura to include a method and apparatus for determining an insertion rate of data packets, as taught by Pinder, for the benefit of determining the available capacity for insertion of data (column 9, lines 14-17).

Claim 16 is met by Bertram, Shimomura, and Pinder. In particular, Bertram discloses that said video processor is further capable of identifying in said stored original data packets replaceable data packets not associated with at least one elementary data stream comprising a program carried in said incoming digital video transport stream (paragraph 0038, lines 1-16).

Claim 17 is met by Bertram, Shimomura, and Pinder. In particular, Bertram discloses that said video processor inserts said new data packets into said plurality of next incoming original data packets by replacing at least one replaceable data packet in said plurality of next incoming original data packets (paragraph 0038, lines 9-16).

Claim 18 is met by Bertram, Shimomura, and Pinder. In particular, Bertram discloses that said video processor is further capable of identifying in said original data packets null data packets (paragraph 0038, lines 4-12).

Claim 19 is met by Bertram, Shimomura, and Pinder. In particular, Bertram discloses that said video processor inserts said new data packets into said plurality of next incoming original data packets by replacing at least one null data packet in said plurality of next incoming original data packets (paragraph 0038, lines 9-16).

Claim 20 is met by Bertram, Shimomura, and Pinder. In particular, Bertram discloses that said video processor estimates said insertion rate as a function of a summation of the M most recently received original data packets (the video processor has buffer control signals, CB1 and CB2, and more importantly, a switch control signal—CS, that estimates the insertion rate according to the most recently received original data packets—paragraph 0047, lines 1-4 and paragraph 0048, lines 7-14).

6. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bertram (US 2002/0064177) and Shimomura (US 6,473,858) in view of Pinder (US 6,219,358) and further in view of Firoiu (US 6,820,128).

With regards to claim 21, Bertram, Shimomura, and Pinder disclose that the video processor (controller 610 in figure 6) controls the switch—620 to determine an insertion rate (paragraph 0047, lines 1-4 and paragraph 0048, lines 7-14).

Bertram, Shimomura, and Pinder fail to disclose that each of said M most recently received original data packets in said summation is scaled by a weighting factor, a(k).

In analogous art, Firoiu discloses that the data packets are scaled by a weighting factor (column 8, lines 24-26).

It would have been obvious to one of ordinary skill in the art to modify the combined system of Bertram, Shimomura, and Pinder to include a weighting factor, as taught by Firoiu, for the benefit of defining the rate of withdrawing data packets from their respective buffers (column 8, lines 24-26).

(10) Response to Argument

In response to appellants' argument (page 6, 3rd paragraph) that Bertram and Pinder do not teach or suggest the video processor of the apparatus recited in claim 1 and the determining, estimating and using steps of the method recited in claim 8, appellants' should note that Bertram explicitly discloses a video processor (controller—610 in figure 6) capable of retrieving said stored original data packets from said input buffer (CB1 coupled to the said input buffer in figure 6 and paragraph 0060, lines 1-4). Pinder was brought in to teach the determining, estimating and using steps of claims 1 and 8 (column 9, lines 11-18 and column 10, lines 5-17).

In response to appellants' argument (page 7, 3rd paragraph) that Pinder does not teach or suggest determining from original data packets N data frequencies associated with N most recently received original data packets, appellants' should first note that Pinder teaches adaptive rate control of data insertion into an outgoing bit stream. Pinder first discloses that the system can accept an *arbitrary* MPEG bit stream (column 9, lines 12-13). Pinder then discloses determining the *properties* of that incoming bit stream (column 9, lines 13-14). Pinder's disclosure of adaptive rate control of data insertion and *arbitrary* MPEG bit stream indicate that the *properties* to be determined read on N data frequencies because one of ordinary skill in the art must know the rate or frequency of the received bit stream in order to insert another data packet into the bit stream without causing visual distortion. For example, one must know that a certain program A is broadcasted at 30 frames per second in order to insert another program data B into the first program stream for the benefit of synchronizing programs A and B.

In response to appellants' argument (page 7, 3rd paragraph) that Pinder does note teach or suggest estimating from the N data frequencies an estimated data frequency of the next incoming original data packets, appellants should note that Pinder discloses, after the first determining step, that "the system ***then*** determines the available capacity for insertion of data into the MPEG bit stream" (column 9, lines 14-16), which reads on the estimating step because one must determine the available capacity / estimate data frequency in order to insert the desired data packets into bit

stream. Pinder further discloses that the insertion of data is done at a variable rate based on the available capacity for insertion of the bit stream, which varies in time. Desired frequency of insertion and variable rate of data insertion read on estimating the data frequency of the incoming bit stream.

In response to appellants' argument (page 7, 3rd paragraph) that Pinder does not teach or suggest using the estimated data frequency to determine an insertion rate at which the new data packets may be inserted into the next incoming original data packets, appellants should note that Pinder discloses, after the determining step, that the rate of insertion is adjusted by the packet handler 500 based on parameters such as the desired / estimated frequency of insertion (column 9, lines 14-17 and column 10, lines 12-17). Adjusting the insertion rate based on the available capacity for insertion of the bit stream indicates that the estimated data frequency (desired frequency of insertion) is used to carry out this process.

In response to appellants' argument (page 8, 4th paragraph) that Firoiu fails to cure the deficiencies of Bertram and Pinder, as Firoiu does not teach or suggest a video processor, appellants' should note that it is the combination of Bertram and Pinder, as stated in the rejections of claims 1 and 7 above, that disclose the video processor (Bertram—controller 610 in figure 6) and determining an insertion rate (Pinder—column 9, lines 11-18 and column 10, lines 5-17). Firoiu was simply brought in to teach that the data packets are scaled by a weighting factor (Firoiu—column 8, lines 24-26).

In response to appellants' argument (page 9, 4th paragraph) that Firoiu fails to cure the deficiencies of Bertram and Pinder, as Firoiu does not teach or suggest a method that determines from original data packets N data frequencies associated with N most recently received original data packets; estimates from the N data frequencies an estimated data frequency of the next incoming original data packets; and uses the estimated data frequency to determine an insertion rate at which the new data packets may be inserted into the next incoming original data packets, appellants' should note that the claimed limitations are met by the combination of Bertram and Pinder and are addressed accordingly above. Furthermore, Firoiu was simply brought in to teach that the data packets are scaled by a weighting factor (Firoiu—column 8, lines 24-26).

In response to appellants' argument (page 11, 1st paragraph) that Pinder does not teach or suggest determining from original data packets N data frequencies associated with N most recently received original data packets, appellants' should first note that Pinder teaches adaptive rate control of data insertion into an outgoing bit stream. Pinder first discloses that the system can accept an *arbitrary* MPEG bit stream (column 9, lines 12-13). Pinder then discloses determining the *properties* of that incoming bit stream (column 9, lines 13-14). Pinder's disclosure of adaptive rate control of data insertion and *arbitrary* MPEG bit stream indicate that the *properties* to be determined read on N data frequencies because one of ordinary skill in the art must know the rate or frequency of the received bit stream in order to insert another data

packet into the bit stream without causing visual distortion. For example, one must know that a certain program A is broadcasted at 30 frames per second in order to insert another program data B into the first program stream for the benefit of synchronizing programs A and B.

In response to appellants' argument (page 11, 1st paragraph) that Pinder does note teach or suggest estimating from the N data frequencies an estimated data frequency of the next incoming original data packets, appellants should note that Pinder discloses, after the first determining step, that "the system ***then*** determines the available capacity for insertion of data into the MPEG bit stream" (column 9, lines 14-16), which reads on the estimating step because one must determine the available capacity / estimate data frequency in order to insert the desired data packets into bit stream. Pinder further discloses that the insertion of data is done at a variable rate based on the available capacity for insertion of the bit stream, which varies in time. Desired frequency of insertion and variable rate of data insertion read on estimating the data frequency of the incoming bit stream.

In response to appellants' argument (page 11, 1st paragraph) that Pinder does not teach or suggest using the estimated data frequency to determine an insertion rate at which the new data packets may be inserted into the next incoming original data packets, appellants should note that Pinder discloses, after the determining step, that the rate of insertion is adjusted by the packet handler 500 based on parameters such as

the desired / estimated frequency of insertion (column 9, lines 14-17 and column 10, lines 12-17). Adjusting the insertion rate based on the available capacity for insertion of the bit stream indicates that the estimated data frequency (desired frequency of insertion) is used to carry out this process.

In response to appellants' argument (page 12, 2nd paragraph) that Firoiu fails to cure the deficiencies of Bertram and Shimomura in view of Pinder, as Firoiu does not teach or suggest a video processor, appellants' should note that it is the combination of Bertram and Pinder, as stated in the rejections of claims 1 and 7 above, that disclose the video processor (Bertram—controller 610 in figure 6) and determining an insertion rate (Pinder—column 9, lines 11-18 and column 10, lines 5-17). Firoiu was simply brought in to teach that the data packets are scaled by a weighting factor (Firoiu—column 8, lines 24-26).

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Harun Yimam
Patent Examiner
Art Unit 2623

June 08, 2006

Conferees:

CHRISTOPHER GRANT
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

Christopher Grant

John Miller

JOHN MILLER
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600